

# **Fisher ROC Serial Driver Help**

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## Fisher ROC Serial Driver Help

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Help version 1.059

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### Overview

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The Fisher ROC Serial Driver provides an easy and reliable way to connect Fisher ROC Serial controllers to OPC Client applications, including HMI, SCADA, Historian, MES, ERP and countless custom applications.

**Note:** For more information on available Opcodes, Point Types, Parameters, and Opcode 255 Error Codes, refer to the ROC Protocol User Manual.

**Important:** EFM functionality is not available in all server versions. To determine whether support is available, refer to the "Server Summary Information" topic located in the server help file.

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## Channel Setup

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### Communication Serialization

The Fisher ROC Serial Driver supports Communication Serialization, which specifies whether data transmissions should be limited to one channel at a time. For more information, refer to "Channel Properties - Advanced" in the server help file.

## Device Setup

### Supported Devices

FloBoss 100 Series  
FloBoss 407  
FloBoss 500 Series  
ROC 300 Series-ROCPAC  
ROC 300 Series-FlashPAC  
RegFlo

### Supported Protocol

Remote Operation Controllers (ROC)

### Maximum Number of Channels and Devices

The maximum number of supported channels is 256. The maximum number of devices supported per channel is 255.

### Ethernet Encapsulation

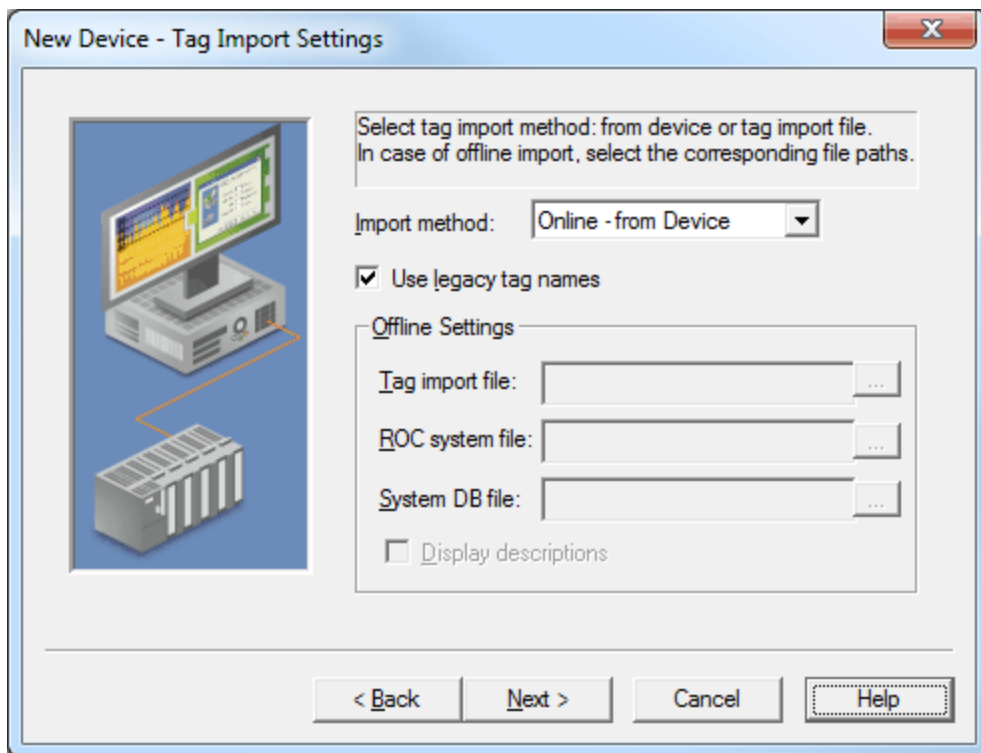
This driver supports Ethernet Encapsulation, which allows communications with serial devices attached to an Ethernet network using a Serial-to-Ethernet server. It may be enabled through the Communications tab in Channel Properties. For more information, refer to "Channel Properties - Ethernet Encapsulation" in the server's help documentation.

**Important:** Some FloBoss 100 Series devices (such as FloBoss 107) fail to respond to TCP requests that use Explicit Congestion Notification (ECN). In order to communicate with these devices, the global TCP/IP ECN parameter must be disabled.

**Note:** This driver does not support Report by Exception.

## Tag Import Settings

Users can create a tag database based on either the device's configuration file or a ROCLINK 800 project file. To view or change the Tag Import settings after the device has been added, right-click on the device and then select **Properties | Tag Import Settings**.



Descriptions of the parameters are as follows:

- **Import method:** This parameter specifies the import method. Options include Online - from Device and Offline - from Import File. The default setting is Online - from Device. Descriptions of the options are as follows:
    - **Online - From Device:** This method automatically creates tags by polling the device for its configuration and I/O data.
    - **Offline - From Import File:** This method automatically creates tags from a project file created in ROCLINK 800.
  - **Use legacy tag names:** When checked, Automatic Tag Database Generation will generate tags with names that are consistent with the tags created in prior versions of the server. When unchecked, Automatic Tag Database Generation will generate tags with names that are consistent with the current version of the server. The default setting is checked.
- Note:** For more information, refer to "Legacy vs. Non-Legacy Tag Names" below.
- **Tag import file:** When pressed, this button invokes a dialog for locating the \*.800 file that was created using the ROCLINK800 software.
  - **ROC system file:** When pressed, this button invokes a dialog for locating the \*.mdb file. This file is usually named "ROC.mdb," and resides in the same folder where the ROCLINK 800 software is installed.
  - **System DB file:** When pressed, this button invokes a dialog for locating the \*.mdw file. This file is usually named "ROCLINK.mdw," and resides in the same folder where the ROCLINK 800 software is installed.
  - **Display descriptions:** When checked, this option will include the tag descriptions from the ROCLINK 800 master database.

### Legacy vs. Non-Legacy Tag Names

For information on how legacy and non-legacy tag names will be automatically generated based on the "Use legacy tag names" option, refer to the table below.

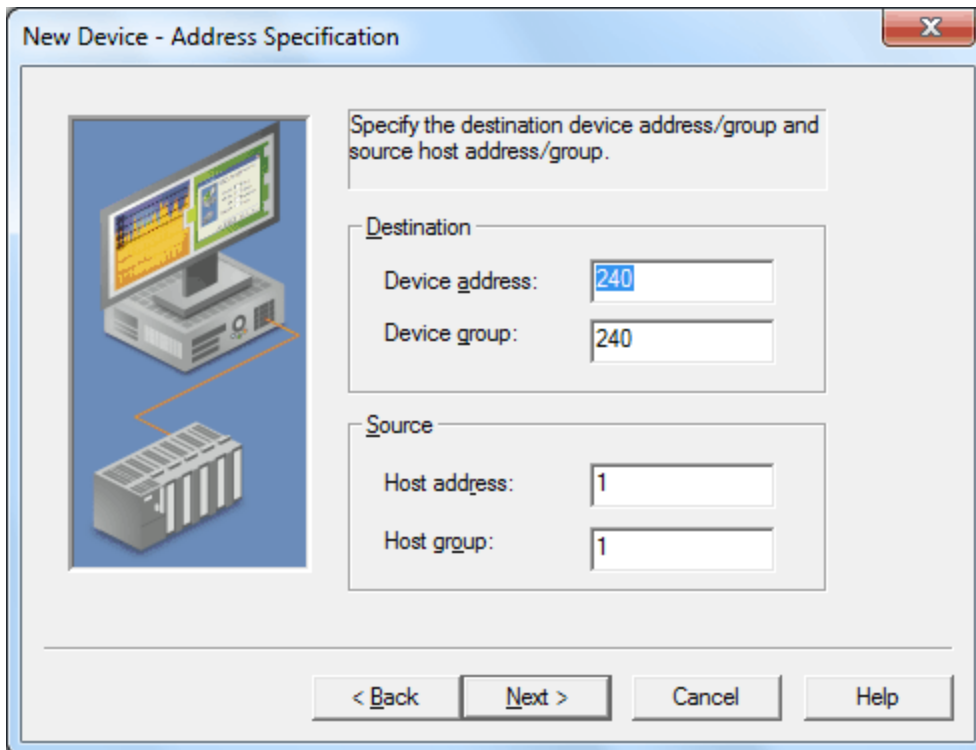
| Tag Type       | Mode       | Tag Name                       | Tag Address |
|----------------|------------|--------------------------------|-------------|
| Non-Boolean    | Legacy     | IPAddress_137_0                | 137-0.1     |
|                | Non-Legacy | IP Address-137 (T137,L0,P1)    | 137-0.1     |
| Boolean (.Bit) | Legacy     | HighAlarm_3_0                  | 3-0.16:2    |
|                | Non-Legacy | High Alarm-3 (T3,L0,P16) Bit 2 | 3-0.16:2    |

See Also: [Automatic Tag Database Generation](#)

### Address Specification

To view or change these settings after the device has been added, right-click on the device and then select **Properties | Address Specification**.





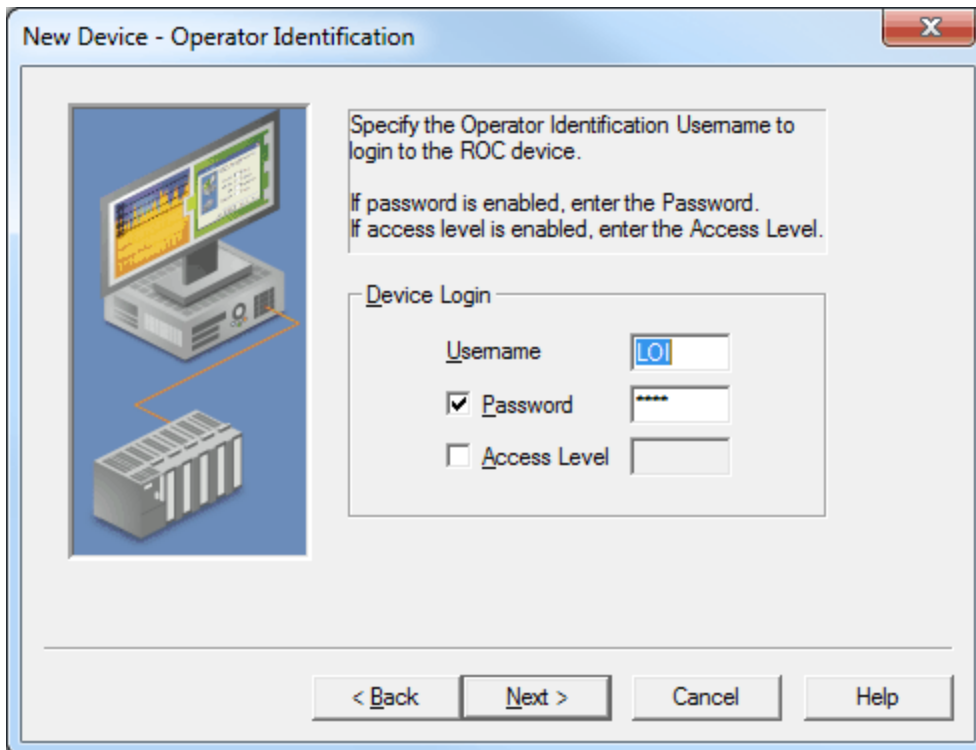
The dialog box is titled "New Device - Address Specification". It contains a graphic on the left showing a computer monitor and a server rack connected by a line. The main area has a text box with the instruction: "Specify the destination device address/group and source host address/group." Below this are two sections: "Destination" and "Source". The "Destination" section has two input fields: "Device address" (containing 240) and "Device group" (containing 240). The "Source" section has two input fields: "Host address" (containing 1) and "Host group" (containing 1). At the bottom are four buttons: "< Back", "Next >", "Cancel", and "Help".

Descriptions of the parameters are as follows:

- **Device address:** This parameter specifies the device number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Device group:** This parameter specifies the group number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Host address:** This parameter specifies the ROC unit number of the server. The valid range is 1 to 255. The default setting is 1.
- **Host group:** This parameter specifies the ROC group number of the server. The valid range is 1 to 255. The default setting is 1.

## Operator Identification

This dialog is used to specify the operator identification values that will be used when logging into the ROC device during initialization. To view or change these settings after the device has been added, right-click on the device and then select **Properties | Operator Identification**.



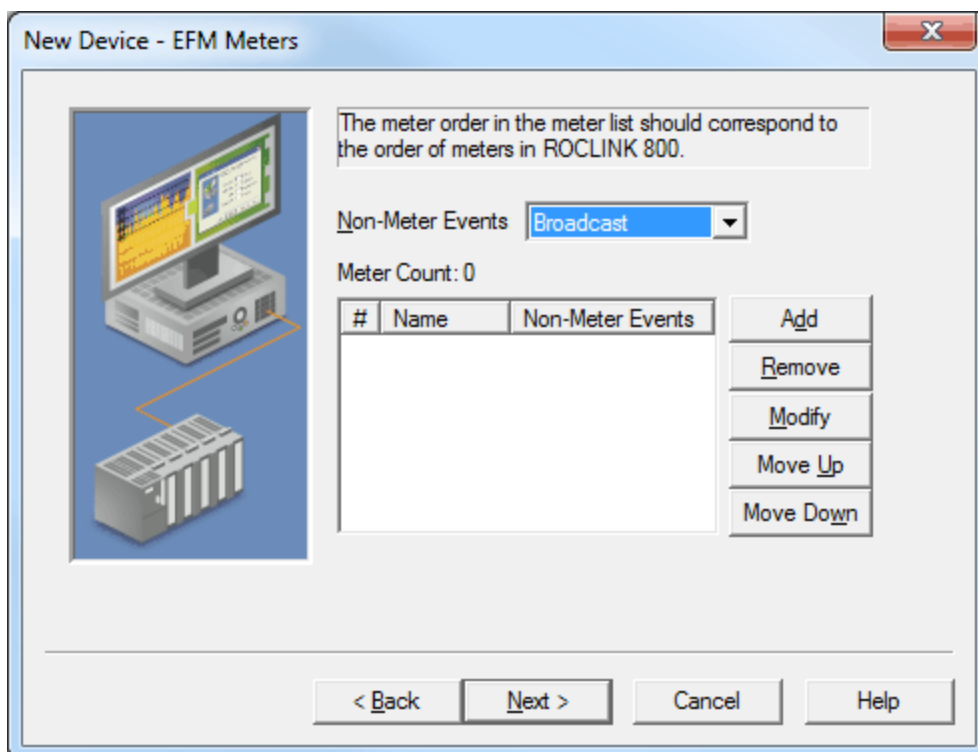
Descriptions of the parameters are as follows:

- **Username:** This parameter specifies the username. Three characters (as set in the device) are required.
- **Password:** When checked, this option specifies that the ROC device has a password defined for the Operator ID. Four numeric characters can be entered. The valid range is 0000 to 9999. The default setting is checked.
- **Access Level:** When checked, this option specifies that the ROC device has defined access levels. The valid range is 0 to 5. The default setting is unchecked.

## EFM Meters

This dialog is used to add, remove, and modify EFM Meters. The meter order in the EFM Meter List should match the order of the meters in ROCLINK 800.

**Important:** Only Hourly and Daily History data may be uploaded from the FloBoss 100 Series and RegFlo devices. Extended History data is not supported for those devices.



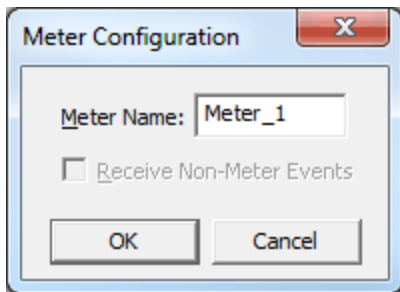
Descriptions of the parameters are as follows:

- **Non-Meter Events:** This parameter specifies how non-meter EFM events will be provided to EFM Exporters. Options include Ignore, Broadcast, and Selected Meters. The default setting is Broadcast. Descriptions of the options are as follows:
    - **Ignore:** This option will not send non-meter events to any meters.
    - **Broadcast:** This option will send non-meter events to all meters.
    - **Selected Meters:** This option will only send non-meter events to those meters that are enabled to do so.
  - **Meter Count:** This parameter displays the number of meters that have been added to the device.
  - **EFM Meter List:** This list view displays the meters that are currently supported by the device, including the meter name and Non-Meter Event configuration.
- Note:** The # column displays the actual meter number of each configured meter. This is the one-based meter number that corresponds to the meter numbers the ROCLINK 800 configuration software used to configure ROC devices.
- **Add:** When clicked, this button will invoke the Meter Configuration dialog for adding a new meter to the device.
  - **Remove:** When clicked, this button will remove the selected meter from the EFM Meter List.
  - **Modify:** When clicked, this button will invoke the Meter Configuration dialog for modifying the selected meter in the EFM Meter List.
  - **Move Up:** When clicked, this button will move the selected meter up in the EFM Meter List.
  - **Move Down:** When clicked, this button will move the selected meter down in the EFM Meter List.

### Clearing Cached Data

Users have the option to clear any cached EFM data from the device during the next upload. All device data will be re-uploaded. To do so, open the **Device Properties | EFM Meters**. Then, click **Clear cache on next upload**.

### Meter Configuration



Descriptions of the parameters are as follows:

- **Meter Name:** This parameter specifies the meter name. Each meter must be assigned a unique name. The default setting is Meter\_1.
- **Receive Non-Meter Events:** When checked, this option enables the meter to receive non-meter events.

**Note:** This option will only be available when the Non-Meter Events parameter is set to Selected Meters.

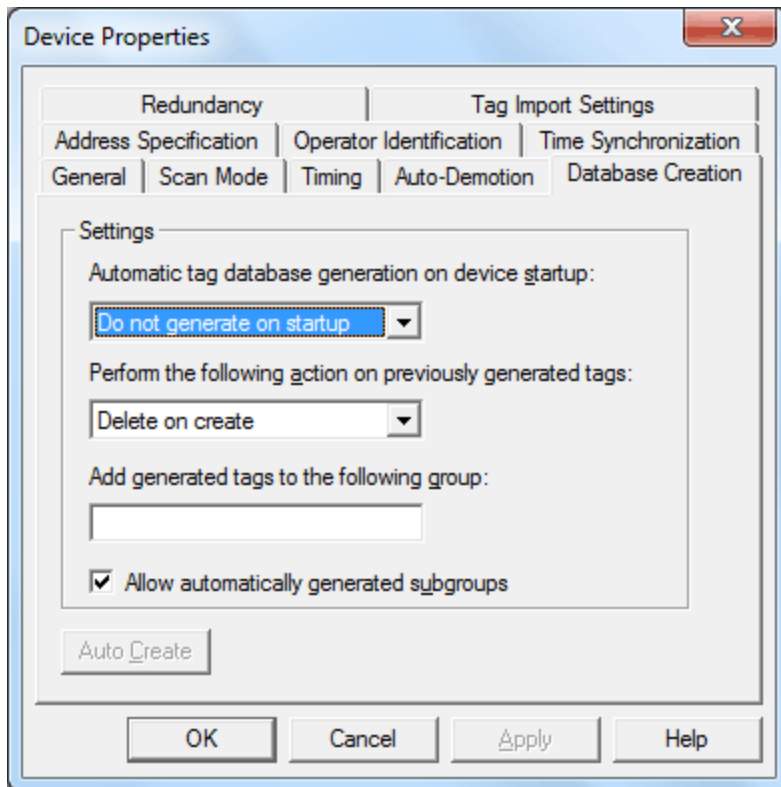
## Data Types Description

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| Data Type    | Description  |
|--------------|--|
| Boolean      | Single bit   |
| Char         | Signed 8 bit value<br><br>bit 0 is the low bit<br>bit 6 is the high bit<br>bit 7 is the sign bit                           |
| Byte         | Unsigned 8 bit value<br><br>bit 0 is the low bit<br>bit 7 is the high bit  |
| Short        | Signed 16 bit value<br><br>bit 0 is the low bit<br>bit 14 is the high bit<br>bit 15 is the sign bit                        |
| Word         | Unsigned 16 bit value<br><br>bit 0 is the low bit<br>bit 15 is the high bit  |
| DWord        | Unsigned 32 bit value<br><br>bit 0 is the low bit<br>bit 31 is the high bit  |
| Float        | 32 bit floating point value<br><br>bit 0 is the low bit<br>bit 31 is the high bit  |
| TLP          | 32 bit value<br><br>Point Type: Logical or Point Number and Parameter Number<br>use three bytes. The top byte is not used. |
| String       | String padded with spaces  |
| Date         | 64 bit floating point value  |
| Date Example | Date format: YYYY-MM-DDTHH:MM:SS.000<br><br>2000-01-01T12:30:45.000  |

## Automatic Tag Database Generation

This driver makes use of the server's Automatic Tag Database Generation feature. When enabled, this feature will build a list of tags within the server that correspond to the device's data points. Extra tags may be generated that affect the quality of other generated tags. Automatic Tag Database Generation may be configured through the Database Creation tab in Device Properties.



**Note:** For information on importing tags from a ROCLINK project, refer to [Tag Import Settings](#).

## Address Descriptions

ROC addresses are divided first by Point Type, Logical Address, and then by Parameter Index within the Point Type. The general format is *T-L.P*, where:

- **T:** The Point Type.
- **L:** The Logical Address.
- **P:** The Parameter Index.

Parameters are blocked together on Point Type and Logical Address to a size up to 236 bytes. Some parameters are broken down into individual bits. Those parameters are addressed as *T-L.P:B*, where:

- **B:** The Bit Offset.

For example, the address 1-50.3:2 indicates the following:

- **Point Type:** 1
- **Logical Address:** 50
- **Parameter:** 3
- **Bit Offset:** 2

For a detailed listing of all point type parameters, access, data type, length, and description, refer to the ROC device's ROC Protocol User Manual. For more information on ROC addressing, select a link from the list below.

[ROC Point Types](#)

[Logical / Point Number Details](#)

[User-Defined Point Types](#)

[Bit Assignments](#)

## ROC Point Types

The availability of point types varies by model and by how the particular unit is equipped. Points may be Physical I/O or Internal I/O.

### Physical I/O Points

Physical I/O points are one of Discrete Inputs (type 1), Discrete Outputs (type 2), Analog Inputs (type 3), Analog Outputs (type 4) and Pulse Inputs (type 5). The logical address for physical I/O points is based on their position in the unit, known as Point Number. There are four slots for each rack. The I/O field is not typically fully populated.

**Note:** Rack and slot are ROC nomenclature; however, many ROC devices have no physical racks or slots.

Logical addresses are calculated from the Point Number reference. For information on reconciling the Point Number to the Logical Address, refer to the table below.

| ROCLINK Point Number | Server Logical Address |
|----------------------|------------------------|
| A1-A16               | 0-15                   |
| B1-B16               | 16-31                  |
| C1-C16               | 32-47                  |
| D1-D16               | 48-63                  |
| E1-E16               | 64-79                  |
| ...                  | ...                    |

For example, an I/O Point with ROCLINK 800 Point Number "A5" would be Logical Address "4". An I/O Point with ROCLINK 800 Point Number "C5" would be Logical Address "36" by the function  $A + B + C5$  (or  $15 + 16 + 5 = 36$ ).

### Internal I/O Points

Internal I/O points consist of PID settings, system flags, communications parameters and other internal information. The internal I/O logical address begins at 0 for each point type. A ROC unit may have one or several of a given internal point type. Each point type has a specific set of parameters. ROC drivers have no array types.

### Point Type Tables

[ROC Point Types for ROC300-Series](#)

[ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series](#)

**ROC Point Types for RegFlo****ROC Point Types for ROC300-Series**

For a detailed listing of all point type parameters' access, data type, length and description, refer to the device's ROC Protocol User Manual.

| Point Types | Description  | ROC300-Series FlashPAC | ROC300-Series ROCPAC |
|-------------|--|------------------------|----------------------|
| 0           | Configurable Opcode                                  | Yes                    | Yes                  |
| 1           | Discrete Inputs (DI)                                 | Yes                    | Yes                  |
| 2           | Discrete Outputs (DO)                                | Yes                    | Yes                  |
| 3           | Analog Inputs (AI)                                   | Yes                    | Yes                  |
| 4           | Analog Outputs (AO)                                  | Yes                    | Yes                  |
| 5           | Pulse Inputs (PI)                                    | Yes                    | Yes                  |
| 6           | Proportional, Integral and Derivative (PID) Control  | Yes                    | Yes                  |
| 7           | American Gas Association (AGA) Flow Parameters       | Yes                    | Yes                  |
| 9           | Local Display Panel                                  | Yes                    | Yes                  |
| 10          | AGA Flow Values                                      | Yes                    | Yes                  |
| 11          | Tank Parameters                                      | No                     | Yes                  |
| 12          | ROC Clock  | Yes                    | Yes                  |
| 13          | System Flags   | Yes                    | Yes                  |
| 14          | Communication Ports                                  | Yes                    | Yes                  |
| 15          | System Variables (ROC Information)                   | Yes                    | Yes                  |
| 16          | Function Sequence Table (FST) Parameters             | Yes                    | Yes                  |
| 17          | Soft Points  | Yes                    | Yes                  |
| 18          | AI Calibration                                       | No                     | Yes                  |
| 19          | Database Setup                                       | Yes                    | Yes                  |
| 20          | ROC Tasks  | Yes                    | Yes                  |
| 21          | Information for User Defined Points                  | Yes                    | Yes                  |
| 22-31       | User Defined Points                                  | No                     | No                   |
| 32          | User Defined Typically Modem Config for COM1         | Yes                    | Yes                  |
| 33          | User Defined Typically Modem Config for LOI and COM2 | Yes                    | Yes                  |
| 34          | User Defined Typically Modbus Config for COM1        | Yes                    | Yes                  |

**ROC Point Types for ROC300-Series (cont.)**

| Point Types | Description   | ROC300-Series FlashPAC | ROC300-Series ROCPAC |
|-------------|---|------------------------|----------------------|
| 35          | User Defined Typically Function Config for COM1         | Yes                    | Yes                  |
| 36          | User Defined Typically Host Config for COM1             | Yes                    | Yes                  |
| 37          | User Defined Typically Modbus Config for LOI and COM2   | Yes                    | Yes                  |
| 38          | User Defined Typically Function Config for LOI and COM2 | Yes                    | Yes                  |
| 39          | User Defined Typically Host Config for COM1             | Yes                    | Yes                  |
| 40          | Multi-Variable Sensor (MVS) Parameters                  | Yes*                   | No                   |
| 41          | AGA Run Parameters                                      | Yes                    | No                   |
| 42          | Extra Run Parameters                                    | Yes                    | No                   |
| 44          | Power Control   | Yes                    | No                   |
| 49          | Upload to Disk  | No                     | No                   |
| 50          | Download to ROC   | No                     | No                   |
| 56          | AI Calibration  | Yes                    | No                   |
| 57          | Keypad / Logon Security Parameters                      | Yes                    | No                   |
| 59          | Program Flash Control Parameters                        | Yes                    | No                   |

\*Added via a user program.

**ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series**

| Point Types | Description | FloBoss | FloBoss | FloBoss |
|-------------|-------------|---------|---------|---------|
|-------------|-------------|---------|---------|---------|



|       |  | 100-Series | 407-Series | 500-Series |
|-------|--|------------|------------|------------|
| 0     | Configurable Opcode                                    | Yes        | Yes        | Yes        |
| 1     | Discrete Inputs  | Yes        | Yes        | Yes        |
| 2     | Discrete Outputs                                       | Yes        | Yes        | Yes        |
| 3     | Analog Inputs  | Yes        | Yes        | Yes        |
| 4     | Analog Outputs   | Yes        | Yes        | Yes        |
| 5     | Pulse Inputs   | Yes        | Yes        | Yes        |
| 6     | PID Control*   | Yes        | Yes        | Yes        |
| 7     | AGA Flow Parameters*                                   | Yes        | Yes        | Yes        |
| 8     | History Parameters                                     | Yes        | No         | Yes        |
| 10    | AGA Flow Values*                                       | Yes        | Yes        | Yes        |
| 12    | ROC Clock  | Yes        | Yes        | Yes        |
| 13    | System Flags   | Yes        | Yes        | Yes        |
| 14    | Communication Ports                                    | Yes        | Yes        | Yes        |
| 15    | System Variables (ROC Information)                     | Yes        | Yes        | Yes        |
| 16    | FST Parameters   | Yes        | Yes        | Yes        |
| 17    | Soft Points  | Yes        | Yes        | Yes        |
| 19    | Database Setup   | Yes        | Yes        | Yes        |
| 20    | ROC Tasks  | No         | Yes        | No         |
|       | Diagnostics  | Yes        | No         | No         |
| 21    | Information for User Defined Points                    | Yes        | Yes        | No         |
| 22-23 | User Defined Points                                    | No         | No         | No         |
| 24    | Reserved   | N/A.       | N/A.       | N/A.       |
| 25-31 | User Defined Points                                    | No         | No         | No         |
| 32    | User Defined – Typically Modem Config for COM1         | Yes        | Yes        | No         |
| 33    | User Defined – Typically Modem Config for LOI and COM2 | Yes        | Yes        | No         |

\*FloBoss 100-Series and FloBoss 500-Series Backward Compatibility.

#### ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series (cont.)

| Point Types | Description  | FloBoss 100-Series | FloBoss 407 | FloBoss 500-Series |
|-------------|--|--------------------|-------------|--------------------|
| 34          | User Defined – Typically Modbus Config for COM1          | Yes                | Yes         | No                 |
| 35          | User Defined – Typically Function Config for COM1        | Yes                | Yes         | No                 |
| 36          | User Defined – Typically Host Config for COM1            | Yes                | Yes         | No                 |
| 37          | User Defined – Typically Modbus Config for LOI and COM2  | Yes                | Yes         | No                 |
| 38          | User Defined: Typically Function Config for LOI and COM2 | Yes                | Yes         | No                 |
| 39          | User Defined – Typically Host Config for COM1            | Yes                | Yes         | No                 |
| 40          | Multi-Variable Sensor (MVS) Parameters                   | Yes                | Yes         | No                 |
| 41          | AGA Run Parameters*                                      | Yes                | Yes         | Yes                |
| 42          | Extra Run Parameters*                                    | Yes                | Yes         | Yes                |
| 43          | User Lists   | Yes                | Yes         | Yes                |
| 44          | Power Control  | Yes                | Yes         | Yes                |
| 45          | Meter Calibration and Sampler                            | Yes                | No          | Yes                |
| 46          | Meter Configuration Parameters                           | Yes                | No          | Yes                |
| 47          | Meter Flow Values  | Yes                | No          | Yes                |
| 48          | PID Control Parameters                                   | Yes                | No          | Yes                |
| 49          | Upload to Disk   | No                 | No          | No                 |
| 50          | Download to ROC  | No                 | No          | No                 |
| 52          | Battery Parameters                                       | No                 | No          | Yes                |
| 53          | Modbus Configuration Parameters                          | Yes                | No          | Yes                |
| 54          | Modbus Function Tables                                   | Yes                | No          | Yes                |

|       |  |     |     |     |
|-------|--|-----|-----|-----|
| 55    | Modbus Special Function Table                        | Yes | No  | Yes |
| 56    | AI Calibration                                       | Yes | Yes | Yes |
| 57    | Keypad / Logon Security Parameters                   | Yes | Yes | Yes |
| 58    | Revision Information                                 | Yes | No  | Yes |
| 59    | Program Flash Control Parameters                     | Yes | Yes | Yes |
| 60-77 | SAM User Defined Parameters                          | No  | No  | No  |
| 80    | Enhanced Communication (ECM) Parameters              | Yes | No  | No  |
| 85    | HART Parameters                                      | Yes | No  | No  |
| 86    | Extended History Parameters                          | Yes | No  | No  |
| 88    | BLM User Lists                                       | Yes | No  | No  |
| 89    | Chart User List Parameters                           | Yes | No  | No  |
| 93    | License Key Information Parameters                   | Yes | No  | No  |
| 94    | User C Program Parameters                            | Yes | No  | No  |
| 117   | Modbus Configuration Parameters                      | Yes | No  | No  |
| 118   | Modbus Register Mapping Parameters                   | Yes | No  | No  |
| 120   | Modbus Master Modem Configuration                    | Yes | No  | No  |
| 121   | Modbus Master Polling Table Configuration Parameters | Yes | No  | No  |
| 122   | DS800 Configuration Parameters                       | Yes | No  | No  |

\*FloBoss 100-Series and FloBoss 500-Series Backward Compatibility.

### ROC Point Types for RegFlo

| Point Types | Description         | Point Types | Description                  |
|-------------|---------------------|-------------|------------------------------|
| 0           | Configurable Opcode | 17          | Soft Points.                 |
| 1           | Discrete Inputs     | 19          | Database Setup.              |
| 2           | Discrete Outputs    | 56          | AI Calibration.              |
| 3           | Analog Inputs       | 57          | Keypad / Logon Parameters.   |
| 4           | Analog Outputs      | 80          | Regulator Parameters.        |
| 8           | History Parameters  | 81          | Logic Alarm Parameters.      |
| 13          | System Flags        | 84          | User Discrete Values.        |
| 14          | Communication Ports | 86          | Extended History Parameters. |
| 15          | System Variables    | NA.         | NA.                          |

### Logical / Point Number Details

Within each point type, individual points are referenced by a Logical Number or a Point Number. The point numbers used by ROC protocol for point types 1 to 5 are based on a physical input or output (I/O) with a rack and module location. All other point types use a Logical Number, and are numbered in sequence.

#### Physical Point Numbers 0 to 69

For point types 1 through 5, there are point numbers for the field I/O and for the diagnostic inputs. They are as follows:

- Point Numbers 0 to 63 are assigned to field I/O (built-in or modular, 64 maximum). For example, if there were ten I/O modules in a ROC364, they would be points 0 through 9. The ROC I/O point database would reference these points by rack and module location, such as A1 through A10.
- Point Numbers 64 to 69 are assigned to the diagnostic (system) I/O. For example, the five diagnostic points in a ROC364 would be 64 through 68. The ROC I/O point database would reference these points by rack and module (namely, E1 to E5).

#### Logical Point Numbers 0 to 127

For all other point types (0 and 6-59), the point number is 0 to x, where x is one less than the total number of points that exist for that point type. For example, the four MVS points in a FloBoss 407 would be logical numbers 0 through 3.

**Note:** All parameters are 0-based for each point type.

## User-Defined Point Types

User-Defined Points (UDP) make user program data available to ROCLINK and OPC clients. They are generally used for configuration purposes. When creating a User-Defined Point in the server, the server Configuration will always set the data type to Default. The data type will later be read live from the device.

**Important:** Users must reinitialize the server after upgrading the user program on a device; otherwise, the server will not be able to access the new points available in the upgraded user program.

### Supported Device Models

All FloBoss 100 Series devices.

### Supported User-Defined Point Range

22 to 23  
25 to 39  
178 to 189

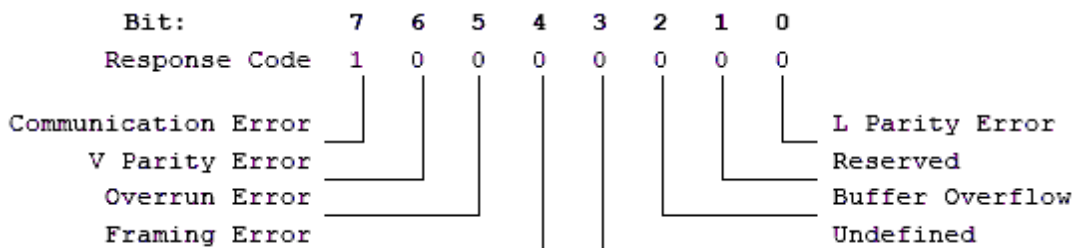
### Troubleshooting

To avoid potential issues, users should do the following:

- Verify that the point type is within the supported UDP range.
- Verify that the point type exists in one of the user programs installed on the device.
- Check the Event Log for the following error message, which will occur if the server fails to parse the UDP configuration: [Unable to parse the User-Defined Point configuration information for point type '<point type>' on device '<device name>'.](#)

## Bit Assignments

The graphic below shows a sample bit assignment. The bits in each byte are numbered 0 to 7, right to left, with Bit 7 shown the furthest to the left. A 1 in any bit indicates that it is active or enabled.



## Error Descriptions

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

### Address Validation

[Address '<address>' is out of range for the specified device or register](#)

[Data Type '<type>' is not valid for device address '<address>'](#)

[Device address '<address>' contains a syntax error](#)

[Device address '<address>' is not supported by model '<model name>'](#)

[Device address '<address>' is Read Only](#)

[Missing address](#)

### Automatic Tag Database Generation Error Messages

[Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register](#)

[Unable to generate a tag database for device '<device>'. Reason: <Error Reason>](#)

[Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed: device is not responding](#)

[Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file](#)

[Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file](#)

[Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset](#)

[Unable to generate a tag database for device '<device>'. Reason: Import file <file name> not found](#)

[Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt](#)

[Unable to generate a tag database for device '<device>'. Reason: Input file not found](#)

[Unable to generate a tag database for device '<device>'. Reason: Low memory resources](#)

[Unable to generate a tag database for device '<device>'. Reason: ROC system file <file name> not found](#)

[Unable to generate a tag database for device '<device>'. Reason: System DB file <file name> not found](#)

### Device Specific Messages

[Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. <Error Reason>](#)

[Device '<device>' responded with error. \(Tag '<tag address>'\)-Details: '<error code>'](#)

[Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>](#)

[Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'](#)

[Operator identification failed for device '<device name>'. <Error Reason>](#)

[Read for point type <point type>, logical address <logical address>, parameter number <parameter number> of device <device name> failed. <Error Reason>](#)

[ROC initialization error: Unable to read general configuration](#)

[ROC initialization error: Unable to retrieve I/O map](#)

[Serialization of EFM data to temporary file '<file name>' failed. Reason: '<file I/O error>'](#)

[The username or password supplied was not accepted. Error = 6](#)

[The username or password supplied was not accepted. Error = 63](#)

[Time synchronization with device '<device name>' failed. <Error Reason>](#)

[Write for the following tags of device <device name> failed: <tag list>. <Error Reason>](#)

[Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'](#)

### Device Status Messages

[Device '<device name>' is not responding](#)

[EFM '<type>' upload failed for device '<device>'. <Reason>](#)

[Resetting the EFM cache for device '<device>'](#)

### Serial Communications

[Communications error on '<channel name>' \[<error mask>\]](#)

[COMn does not exist](#)

[COMn is in use by another application](#)  
[Error opening COMn](#)  
[Unable to set comm parameters on COMn](#)

### User-Defined Point Error Messages

[Block read for point type '<point type>', logical address '<logical address>', parameter range '<start parameter - end parameter>' of device '<device name>' failed. Parameters are not in the loaded UDP configuration](#)  
[Read for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. Parameter is not in the loaded UDP configuration](#)  
[Unable to load User-Defined Point configuration for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>'. The number of parameters for this point is 0](#)  
[Unable to parse the User-Defined Point configuration information for point type '<point type>' on device '<device name>'](#)  
[User-Defined Point Configuration upload for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. <Error Reason>](#)

See Also: [ROC Error Codes](#)

### Error Reasons

For more information on error reasons, refer to the table below.

| Error Reason                     | Possible Cause  | Solution   |
|----------------------------------|---|--|
| Device not responding            | *   | *  |
| Device responded with error code | The ROC device responded with an error code.  | **   |
| Framing error                    | The response packet from the ROC device has data fields that are not as per the protocol. | This error is very rare. If encountered, users should check with the manufacturer to ensure that the ROC device is consistent with the protocol. |
| Operator identification error    | The operator identification login (with User ID and Password) failed.                     | Refer to the Event Log message that corresponds to the operator identification failure.  |

\*For more information, refer to [Device '<device name>' is not responding](#).

\*\*For more information, refer to [ROC Error Codes](#).

### Address Validation

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

#### Address Validation

[Address '<address>' is out of range for the specified device or register](#)  
[Data Type '<type>' is not valid for device address '<address>'](#)  
[Device address '<address>' contains a syntax error](#)  
[Device address '<address>' is not supported by model '<model name>'](#)  
[Device address '<address>' is Read Only](#)  
[Missing address](#)

#### Address '<address>' is out of range for the specified device or register

##### Error Type:

Warning

##### Possible Cause:

A tag address that has been specified statically references a location that is beyond the range of supported locations for the device.

##### Solution:

Verify that the address is correct; if it is not, re-enter it in the client application.

---

**Data Type '<type>' is not valid for device address '<address>'**

---

**Error Type:**

Warning

**Possible Cause:**

A tag address that has been specified statically has been assigned an invalid data type.

**Solution:**

Modify the requested data type in the client application.

---

**Device address '<address>' contains a syntax error**

---

**Error Type:**

Warning

**Possible Cause:**

A tag address that has been specified statically contains one or more invalid characters.

**Solution:**

Re-enter the address in the client application.

---

**Device address '<address>' is not supported by model '<model name>'**

---

**Error Type:**

Warning

**Possible Cause:**

A tag address that has been specified statically references a location that is valid for the communications protocol but not supported by the target device.

**Solution**

1. Verify that the address is correct; if it is not, re-enter it in the client application.
2. Verify that the selected model name for the device is correct.

---

**Device address '<address>' is Read Only**

---

**Error Type:**

Warning

**Possible Cause:**

A tag address that has been specified statically has a requested access mode that is not compatible with what the device supports for that address.

**Solution:**

Change the access mode in the server application.

---

**Missing address**

---

**Error Type:**

Warning

**Possible Cause:**

A tag address that has been specified statically has no length.

**Solution:**

Re-enter the address in the server application.

---

**Automatic Tag Database Generation Error Messages**

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

**Automatic Tag Database Generation Error Messages**

Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register

Unable to generate a tag database for device '<device>'. Reason: <Error Reason>

Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed: device is not responding

Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file

Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file

Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset

Unable to generate a tag database for device '<device>'. Reason: Import file <file name> not found

Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt

Unable to generate a tag database for device '<device>'. Reason: Input file not found

Unable to generate a tag database for device '<device>'. Reason: Low memory resources

Unable to generate a tag database for device '<device>'. Reason: ROC system file <file name> not found

Unable to generate a tag database for device '<device>'. Reason: System DB file <file name> not found

---

**Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register**

---

**Error Type:**

Warning

**Possible Cause:**

An imported tag address specifies a location that is beyond the range of supported locations for the device.

**Solution:**

Verify that the address is correct; if it is not, re-enter it in the file being imported.

---

**Unable to generate a tag database for device '<device>'. Reason: <Error Reason>**

---

**Error Type:**

Warning

**Possible Cause:**

The error occurred due to the specified Error Reason.

**Solution:**

The solution depends on the specified Error Reason.

**See Also:**

[Error Reasons](#)

---

**Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed. Device is not responding**

---

**Error Type:**

Serious

**Possible Cause:**

1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.

**Solution:**

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

---

**Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file**

---

**Error Type:**

Warning

**Possible Cause:**

1. The tag import file (\*.800) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

**Solution:**

1. Ensure that the project is pointing to the correct import file.
2. Re-create the import file using the ROCLINK 800 software and then re-try the import.

---

**Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file**

---

**Error Type:**

Warning

**Possible Cause:**

1. The ROC system file (\*.mdb) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

**Solution:**

1. Ensure that the project is pointing to the correct ROC system file.
2. Re-install the ROCLINK 800 software in order to re-install the system file. Then, re-try the import.

---

**Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset**

---

**Error Type:**

Warning

**Possible Cause:**

1. The project file is corrupt or does not exist.
2. The location of the ROC.MDB and/or ROCLINK.MDW files have been specified incorrectly.

**Solution:**

In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to check the name of the project file that will be imported.

**See Also:**[Tag Import Settings](#)[Automatic Tag Database Generation](#)

---

**Unable to generate a tag database for device '<device>'. Reason: Import file <file name> not found**

---

**Error Type:**

Warning

**Possible Cause:**

The import file cannot be found.

**Solution:**

Ensure that the tag import file (\*.800) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

---

**Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt**

---

**Error Type:**

Warning



**Possible Cause:**

The import file is corrupt.

**Solution:**

In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to review the settings and check the import file. If necessary, re-export the project file from within ROCLINK800.

**See Also:**

[Tag Import Settings](#)

[Automatic Tag Database Generation](#)

---

**Unable to generate a tag database for device '<device>'. Reason: Input file not found**

---

**Error Type:**

Warning

**Possible Cause:**

The import file cannot be found.

**Solution:**

In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to check the name of the project file that will be imported. This file must be accessible to the server's Runtime.

**See Also:**

[Tag Import Settings](#)

[Automatic Tag Database Generation](#)

---

**Unable to generate a tag database for device '<device>'. Reason: Low memory resources**

---

**Error Type:**

Warning

**Possible Cause:**

The memory required for Automatic Tag Generation could not be allocated. The process is aborted.

**Solution:**

Close unused applications and/or increase the amount of virtual memory and try again.

---

**Unable to generate a tag database for device '<device>'. Reason: ROC system file <file name> not found**

---

**Error Type:**

Warning

**Possible Cause:**

The ROC system file cannot be found.

**Solution:**

Ensure that the ROC system file (\*.mdb) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

---

**Unable to generate a tag database for device '<device>'. Reason: System DB file <file name> not found**

---

**Error Type:**

Warning

**Possible Cause:**

The System DB file cannot be found.

### Solution:

Ensure that the System DB file (\*.mdw) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

## Device Specific Messages

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

### Device Specific Messages

Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. <Error Reason>

Device '<device>' responded with error. (Tag '<tag address>')-Details: '<error code>'

Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>

Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'

Operator identification failed for device '<device name>'. <Error Reason>

Read for point type <point type>, logical address <logical address>, parameter number <parameter number> of device <device name> failed. <Error Reason>

ROC initialization error: Unable to read general configuration

ROC initialization error: Unable to retrieve I/O map

Serialization of EFM data to temporary file '<file name>' failed. Reason: '<file I/O error>'

The username or password supplied was not accepted. Error = 6

The username or password supplied was not accepted. Error = 63

Time synchronization with device '<device name>' failed. <Error Reason>

Write for the following tags of device <device name> failed: <tag list>. <Error Reason>

Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'

**Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. <Error Reason>**

---

### Error Type:

Serious

### Possible Cause:

The error occurred due to the specified Error Reason.

### Solution:

The solution depends on the specified Error Reason.

### See Also:

[Error Reasons](#)

**Device '<device>' responded with error. (Tag '<tag address>')-Details: '<error code>'**

---

### Error Type:

Serious

### Possible Cause:

1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. Value written is out of range or write was performed while in an incorrect setup area.

### Solution:

1. Check the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

### See Also:

**Device Setup**

**Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>**

---

**Error Type:**

Serious

**Possible Cause:**

1. Invalid tag address for point in block.
2. Device not responding.

**Solution:**

1. Verify the cabling between the PC and the device.
2. Confirm that all tags within this block exist on the device.

**See Also:**

[ROC Error Codes](#)

**Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'**

---

**Error Type:**

Serious

**Possible Cause**

1. The address is incorrect.
2. The unit does not support the particular address point.
3. The privileges for the logged-in user do not permit this operation.

**Solution:**

1. Consult the ROC error code reference for further information regarding the error code.
2. Correct the address.
3. Confirm that the address is supported by the controller in use.
4. Supply an operator identification with sufficient privileges.

**See Also:**

[ROC Error Codes](#)

**Operator identification failed for device '<device name>'. <Error Reason>**

---

**Error Type:**

Serious

**Possible Cause:**

The error occurred due to the specified Error Reason.

**Solution:**

The solution depends on the specified Error Reason.

**See Also:**

[Error Reasons](#)

**Read for point type <point type>, logical address <logical address>, parameter number <parameter number> of device <device name> failed. <Error Reason>**

---

**Error Type:**

Serious

**Possible Cause:**

The error occurred due to the specified Error Reason.

**Solution:**

The solution depends on the specified Error Reason.

**See Also:**

[Error Reasons](#)

---

**ROC initialization error: Unable to read general configuration**

---

**Error Type:**

Fatal

**Possible Cause:**

The driver may not be receiving a response from the device.

**Solution:**

1. Make sure the device is physically connected and powered on.
2. Check that the COM port is working and configured properly at the channel level (in the server).
3. Check the device-level Operator Identification and Address Specification settings and verify that they are correct.

**See Also:**

[Operator Identification](#)

[Address Specification](#)

---

**ROC initialization error: Unable to retrieve I/O map**

---

**Error Type:**

Fatal

**Possible Cause:**

Access to the I/O Map has been restricted for the current user.

**Solution:**

Check the Operator Identification settings (such as, username, password, and access level) and verify that they are correct.

**See Also:**

[Operator Identification](#)

---

**Serialization of EFM data to temporary file '<file name>' failed. Reason: '<file I/O error>'**

---

**Error Type:**

Warning

**Possible Cause:**

1. The driver was unable to create the specified file directory.
2. The driver was unable to access the specified file.

**Solution:**

1. Verify that the disk has sufficient disk space.
2. Verify user permissions for the specified file directory.

---

**The username or password supplied was not accepted. Error = 6**

---

**Error Type:**

Fatal

**Possible Cause:**

An access level has been enabled on the device but not in the driver.

**Solution:**

Check the Operator Identification settings and make sure the Enable Access Level checkbox is checked.

**See Also:**[Operator Identification](#)

---

**The username or password supplied was not accepted. Error = 63**

---

**Error Type:**

Fatal

**Possible Cause:**

The access level that has been enabled on the device is lower than the operator's access level.

**Solution:**

Check the Operator Identification settings and make sure the operator's access level is less than or equal to the access level enabled in the device.

**See Also:**[Operator Identification](#)

---

**Time synchronization with device '<device name>' failed. <Error Reason>**

---

**Error Type:**

Serious

**Possible Cause:**

The error occurred due to the specified Error Reason.

**Solution:**

The solution depends on the specified Error Reason.

**See Also:**[Error Reasons](#)

---

**Write for the following tags of device <device name> failed: <tag list>. <Error Reason>**

---

**Error Type:**

Serious

**Possible Cause:**

The error occurred due to the specified Error Reason.

**Solution:**

The solution depends on the specified Error Reason.

**See Also:**[Error Reasons](#)

---

**Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'**

---

**Error Type:**

Warning

**Possible Cause:**

The driver was attempting to write to a Read Only datum in the ROC controller.

**Solution:**

Do not attempt to write to Read Only points.

**Note:**

In some situations, the Automatic Tag Generation process will identify Read Only datum as Read/Write, based on the configuration that the driver retrieved from the ROC controller and the ROC specification. Nonetheless, the

ROC controller itself is the final authority on whether a datum is writable. For more information, refer to the controller's documentation.

## Device Status Messages

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

### Device Status Messages

[Device '<device name>' is not responding](#)

[EFM '<type>' upload failed for device '<device>'. <Reason>](#)

[Resetting the EFM cache for device '<device>'](#)

### Device '<device name>' is not responding

---

#### Error Type:

Serious

#### Possible Cause:

1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. The response from the device took longer to receive than the amount of time specified in the "Request Timeout" device setting.

#### Solution:

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.
3. Increase the Request Timeout setting so that the entire response can be handled.

### EFM '<type>' upload failed for device '<device>'. <Reason>

---

#### Error Type:

Warning

#### Possible Cause:

An EFM upload of the specified type could not be completed due to the specified reason.

#### Solution:

Resolve the issue. Then, re-attempt the EFM upload.

### Resetting the EFM cache for device '<device>'

---

#### Error Type:

Informational

#### Possible Cause:

The EFM cache was successfully cleared for the specified device.

#### Solution:

N/A.

## Serial Communications

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

### Serial Communications

[Communications error on '<channel name>' \[<error mask>\]](#)

[COMn does not exist](#)

[COMn is in use by another application](#)

[Error opening COMn](#)

[Unable to set comm parameters on COMn](#)

---

**Communications error on '<channel name>' [<error mask>]**

---

**Error Type:**

Serious

**Error Mask Definitions:**

**B** = Hardware break detected.

**F** = Framing error.

**E** = I/O error.

**O** = Character buffer overrun.

**R** = RX buffer overrun.

**P** = Received byte parity error.

**T** = TX buffer full.

**Possible Cause:**

1. The serial connection between the device and the Host PC is bad.
2. The communication parameters for the serial connection are incorrect.

**Solution:**

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

---

**COMn does not exist**

---

**Error Type:**

Fatal

**Possible Cause:**

The specified COM port is not present on the target computer.

**Solution:**

Verify that the proper COM port has been selected in the Channel Properties.

---

**COMn is in use by another application**

---

**Error Type:**

Fatal

**Possible Cause:**

The serial port assigned to a device is being used by another application.

**Solution:**

Verify that the correct port has been assigned to the channel.

---

**Error opening COMn**

---

**Error Type:**

Fatal

**Possible Cause:**

The specified COM port could not be opened due to an internal hardware or software problem on the target computer.

**Solution:**

Verify that the COM port is functional and may be accessed by other Windows applications.

---

**Unable to set comm parameters on COMn**

---

**Error Type:**

Fatal

**Possible Cause:**

The serial parameters for the specified COM port are not valid.

**Solution:**

Verify the serial parameters and make any necessary changes.

---

## User-Defined Point Error Messages

---

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

### User-Defined Point Error Messages

Block read for point type '<point type>', logical address '<logical address>', parameter range '<start parameter - end parameter>' of device '<device name>' failed. Parameters are not in the loaded UDP configuration

Read for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. Parameter is not in the loaded UDP configuration

Unable to load User-Defined Point configuration for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name>. The number of parameters for this point is 0

Unable to parse the User-Defined Point configuration information for point type '<point type>' on device '<device name>'

User-Defined Point Configuration upload for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. <Error Reason>

**Block read for point type '<point type>', logical address '<logical address>', parameter range '<start parameter - end parameter>' of device '<device name>' failed. Parameters are not in the loaded UDP configuration**

---

#### Error Type:

Serious

#### Possible Cause:

The user program that is associated with the specified parameters has been upgraded to a newer version.

#### Solution:

Reinitialize the server in order to gain access to the new parameters available in the upgraded user program.

**Read for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. Parameter is not in the loaded UDP configuration**

---

#### Error Type:

Serious

#### Possible Cause

The user program that is associated with this parameter has been upgraded to a newer version.

#### Solution:

Reinitialize the server in order to gain access to the new parameters available in the upgraded user program.

**Unable to load User-Defined Point configuration for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name>. The number of parameters for this point is 0**

---

#### Error Type:

Serious

#### Possible Cause:

The user program that supports the point type is not installed on the device.

#### Solution:

Verify that the user program that supports the point type is installed on the device.

**Unable to parse the User-Defined Point configuration information for point type '<point type>' on device '<device name>'**

---

#### Error Type:



Serious

### Possible Cause

There was unexpected data in the UDP configuration read from the device.

### Solution:

This error requires further troubleshooting. Please contact Technical Support.

**User-Defined Point Configuration upload for point type '<point type>', logical address '<logical address>', parameter number '<parameter>' of device '<device name>' failed. <Error Reason>**

---

### Error Type:

Serious

### Possible Cause

The error occurred due to the specified reason.

### Solution:

The solution depends on the specified Error Reason.

### See Also:

[Error Reasons](#)

## ROC Error Codes

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### Error Codes Returned by Opcode 255

Opcode 255 is an error message indicator that returns an error code.

### FlashPACs, FloBoss 500-Series, FloBoss 100-Series and RegFlo Models

| Error Code | Description                            |
|------------|--|
| 1          | Invalid Opcode request.                |
| 2          | Invalid Parameter Number.              |
| 3          | Invalid Logical Number / Point Number. |
| 4          | Invalid Point Type.                    |
| 5          | Received too many data bytes.          |
| 6          | Received too few data bytes.           |
| 7          | Did not receive 1 data byte.           |
| 8          | Did not receive 2 data byte.           |
| 9          | Did not receive 3 data byte.           |
| 10         | Did not receive 4 data byte.           |
| 11         | Did not receive 5 data byte.           |
| 12         | Did not receive 16 data byte.          |
| 13         | Outside valid address range.           |
| 14         | Invalid history request.               |
| 15         | Invalid FST request.                   |
| 16         | Invalid event entry.                   |
| 17         | Requested too many alarms.             |
| 18         | Requested too many events.             |
| 19         | Write to read only parameter.          |
| 20         | Security error.                        |
| 21         | Invalid security logon.                |
| 22         | Invalid store and forward path.        |
| 23         | Flash programming error.               |
| 24         | History configuration in progress.     |
| 63         | Requested security level too high.     |

**ROCPACs and FloBoss 407 Models****Read Errors**

| Error Code | Description   |
|------------|---|
| 8          | More than 250 data bytes in response.   |
| 9          | Invalid parameter.  |
| 90         | One of the following conditions occurred:<br>1. Did not receive 4 data bytes.<br>2. Invalid Point Type. |
| 91         | Point does not exist.   |
| 92         | Point does not exist.   |
| 93         | Invalid range of parameters asked for.  |
| 94         | Too many data bytes to send (more than 240).  |

**Write Errors**

| Error Code | Description                                 |
|------------|---|
| 103        | Received less than 4 data bytes.            |
| 104        | Point type out of range (1-24 are valid).   |
| 105        | Point does not exist, or invalid parameter. |
| 106        | Not enough data bytes received.             |

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